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April 27, 2006

Our Ref: 923-1000-002.R273

Palmer Coking Coal Company
31407 Highway 169
P.O. Box 10
Black Diamond, Washington 98010

ATTENTION: Mr. Bill Kombol

RE: LANDSBURG MINE SITE INTERIM GROUNDWATER MONITORING RESULTS – FEBRUARY, 2006

Dear Mr. Kombol:

Golder Associates Inc. (Golder) completed an interim groundwater monitoring event at the Landsburg Mine Site during February, 2006. Groundwater samples were collected from monitoring wells LMW-2, LMW-4, LMW-5, LMW-6, LMW-7, LMW-8, LMW-9, LMW-10, LMW-11 and Piezometer P-2 (see Figure 1). Monitoring wells LMW-2, LMW-4 and LMW-10 are completed to monitor shallow and deeper zones within the Rogers coal seam north of the Rogers Coal mine subsidence trench. Monitoring well LMW-5 is completed to monitor a deeper zone (~ 250 feet depth) within the Rogers coal seam south of the subsidence trench. Piezometer P-2 monitors the Portal 3 incline shaft and monitoring well LMW-8 monitors discharging groundwater from Portal 3 at the south end on the Rogers Coal Mine. These wells lay along the primary pathways for detection of a chemical release from the mine, were one to occur. Samples were also collected of the groundwater from Well LMW-9 and the new deep Well LMW-11, which monitor groundwater from within the Rogers Coal Mine near its south end. Wells LMW-9 and LMW-11 are receiving groundwater from near the top of the water table and near the bottom of the mine, respectively. Wells LMW-6 and LMW-7 monitor groundwater from the Frasier and Landsburg coal mines to the west and east of the Rogers coal mine, respectively.

Well LMW-11 was drilled and installed by mid-October, 2005. LMW-11 is a 700 foot monitoring well that extends near the bottom and south end of the Rogers Coal Mine. The borehole log and well installation diagram for LMW-11 is provided in Appendix A. The February 2006 sampling event included the acquisition and analysis of a groundwater sample from Well LMW-11.

Groundwater sampling was conducted in accordance with the *Draft Interim Groundwater Monitoring Plan, Landsburg Mine Site* (Golder, 1997), and included the following activities:

- Measurement of static water levels at monitoring wells;
- Well purging to insure sample representativeness with the currently installed dedicated pumping systems;

- Measurement of field parameters including: pH, specific conductance, temperature, dissolved oxygen, Eh, and turbidity;
- Collection of representative samples in appropriate containers; metals samples were not field filtered; and
- Analyses of groundwater for volatile organic compounds (EPA Method 8260B), semi-volatile organic compounds (EPA Method 8270C), polychlorinated biphenyls (PCBs) (EPA Method 8082), pesticides (EPA 8081A), priority pollutant metals (EPA Method 6000/7000 Series), major anions (standard wet chemistry methods), cyanide (Method SM4500 and EPA Method 9010B) and a petroleum hydrocarbon identification scan (HCID). The number of analytes for each sample totals about 200 hazardous substances.
- Geochemical parameters for evaluation of natural attenuation mechanisms were conducted on groundwater samples from Wells LMW-11 (deep groundwater within the mine), LMW-9 (shallow groundwater within the mine) and Piezometer P-2 (groundwater discharging from the mine). The geochemical parameters included:
  - Ferrous and ferric iron;
  - Nitrate, nitrite, ammonia and Kjeldahl nitrogen species;
  - Sulfate and sulfide sulfur species; and
  - Dissolved gases hydrogen, methane, ethane, and ethene.

The attached Appendix B presents the laboratory analytical reports and data validation summaries for all analyses. Sampling activities were documented on Sample Integrity Data Sheets (SIDS). Copies of the completed SIDS are provided in Appendix C. Table 1 presents water depth measurements and elevations that were collected from wells prior to sampling activities. Groundwater levels are similar to previous monitoring periods and indicate that groundwater is discharging out both ends of the Rogers Coal mine.

Following sample collection, all bottles were sealed, labeled and placed in a cooler maintained at approximately 4° C. All groundwater samples from monitoring wells were transported under chain-of-custody procedures to North Creek Analytical, Inc. for analyses, located in Bothell, Washington. Screening levels are based on maximum contaminant levels (MCLs) or State of Washington MTCA Method B groundwater cleanup levels whichever value is less. In cases where an established MCL or Method B Cleanup Level does not exist, a similar (surrogate) compound regulatory screening level is identified for comparison.

The analytical results indicate no significant changes in groundwater conditions from those observed during the remedial investigation (RI) and on-going interim groundwater monitoring. The analytical results did not detect any organic compound in any of the groundwater samples. The practical quantification limits (PQLs) and detection limits for all compounds were at or below acceptable concentrations under the Model Toxics Control Act (MTCA). The only parameters detected in groundwater samples were metals and major anions that are naturally occurring, which are summarized in Table 2.

Iron and manganese are the only metals that were detected in several wells at concentrations in excess of the screening levels of 0.3µg/L and 0.05µg/L, respectively. For these compounds, the only screening levels are secondary maximum contaminant levels (SMCLs) which are not health-based

standards, but are protective of aesthetic qualities of water. The concentrations of iron and manganese detected during the February, 2006 sampling event are similar to concentrations detected during the RI (Golder, 1996)[1] and the Interim Groundwater Sampling events held previously.

Several groundwater samples contained iron and manganese concentrations above State of Washington secondary drinking water levels (SMCLs), which are not health-based standards, but are protective of aesthetic qualities of water. The concentrations of iron and manganese detected during the February, 2006 sampling event are similar to concentrations detected during the RI (Golder, 1996)[2] and the Interim Groundwater Sampling events held previously.

The groundwater sample from the new deep well (LMW-11) contained arsenic at a concentration equivalent to the Washington State primary drinking water MCL of 10 ug/L, but higher than the MTCA cleanup level of 5 ug/L. Arsenic is also a naturally occurring metal commonly detectable in groundwater. The MTCA groundwater cleanup level is actually based on groundwater background levels in the State. Since 10 ug/L is only slightly above the MTCA cleanup level, it is probable that the arsenic concentrations are naturally occurring deep within the mine where groundwater is more stagnant and its geochemistry may be different than shallow groundwater within the mine.

Several volatile organic compounds that are associated with petroleum fuels have been detected from newly installed monitoring wells. Groundwater monitoring results of LMW-10, after its installation, detected trace concentrations (<1 ug/L) of benzene and toluene (April/May, 2004 data; August, 2004 data; and May 2005 data). Several groundwater samples, obtained from LMW-11 after installation, also contained benzene, toluene, and xylenes at trace concentrations and below drinking water levels. The concentrations of the observed compounds showed a definitive decreasing trend with time and were not detectable in the latest samples obtained in February 2006. The conclusion is that the borehole drilling locally affected groundwater quality in deeper wells at the site because the compressor air of the air-rotary drill rig used to blow cuttings from the borehole probably had some entrained volatile organics that dissolved within the borehole groundwater. This phenomenon has been observed elsewhere in deep bedrock wells after installation[3]. Since the concentrations of these volatile organics have become undetectable and not increased or even stayed constant, the source could not be from the waste materials disposed at the Landsburg Mine site.

The geochemical attenuation properties of groundwater in the mine were evaluated. Groundwater from Well LMW-11 (near the bottom of the mine at the south end), Well LMW-9 (near the top of the water table in the southern end of the mine), and Piezometer P-2 (in the incline shaft at the south end of the mine) were analyzed for iron, nitrogen and sulfur speciation and for dissolved gases of hydrogen, methane, ethene and ethane. The results are presented on Table 2. The results indicate that groundwater in the mine is probably anaerobic and would be capable of anaerobic biologic degradation of chlorinated solvents based on initial screening in accordance with *Guidance on Developing a Monitored Natural Attenuation Remedial Proposal for Chlorinated Organics in Ground Water* (North Carolina Division of Waste Management – Hazardous Waste Section, 2000).

[1] Golder Associates Inc., 1996. *Remedial Investigation and Feasibility Study for the Landsburg Mine Site*. Landsburg PLP Steering Committee.

[2] Golder Associates Inc., 1996. *Remedial Investigation and Feasibility Study for the Landsburg Mine Site*. Landsburg PLP Steering Committee.

[3] Personal Communication with Steven Hulsman. February 7, 2006. Washington State Department of Health – NW Drinking water Operations. Kent, Washington.

Because a source of chlorinated solvents in mine groundwater at the south end does not exist, the daughter products of solvent sources would not be detected and used as definitive evidence of active anaerobic bio-degradation process occurring. The conditions appear to be suitable for anaerobic bio-degradation, if a solvent source were present.

If you have any questions or require any additional information, please contact Douglas Morell at (425) 883-0777.

Sincerely,

GOLDER ASSOCIATES INC.

Ian Young,
Project Hydrogeologist

Douglas J. Morell, Ph.D., L.Hy.
Principal

DJM/IY/mkı

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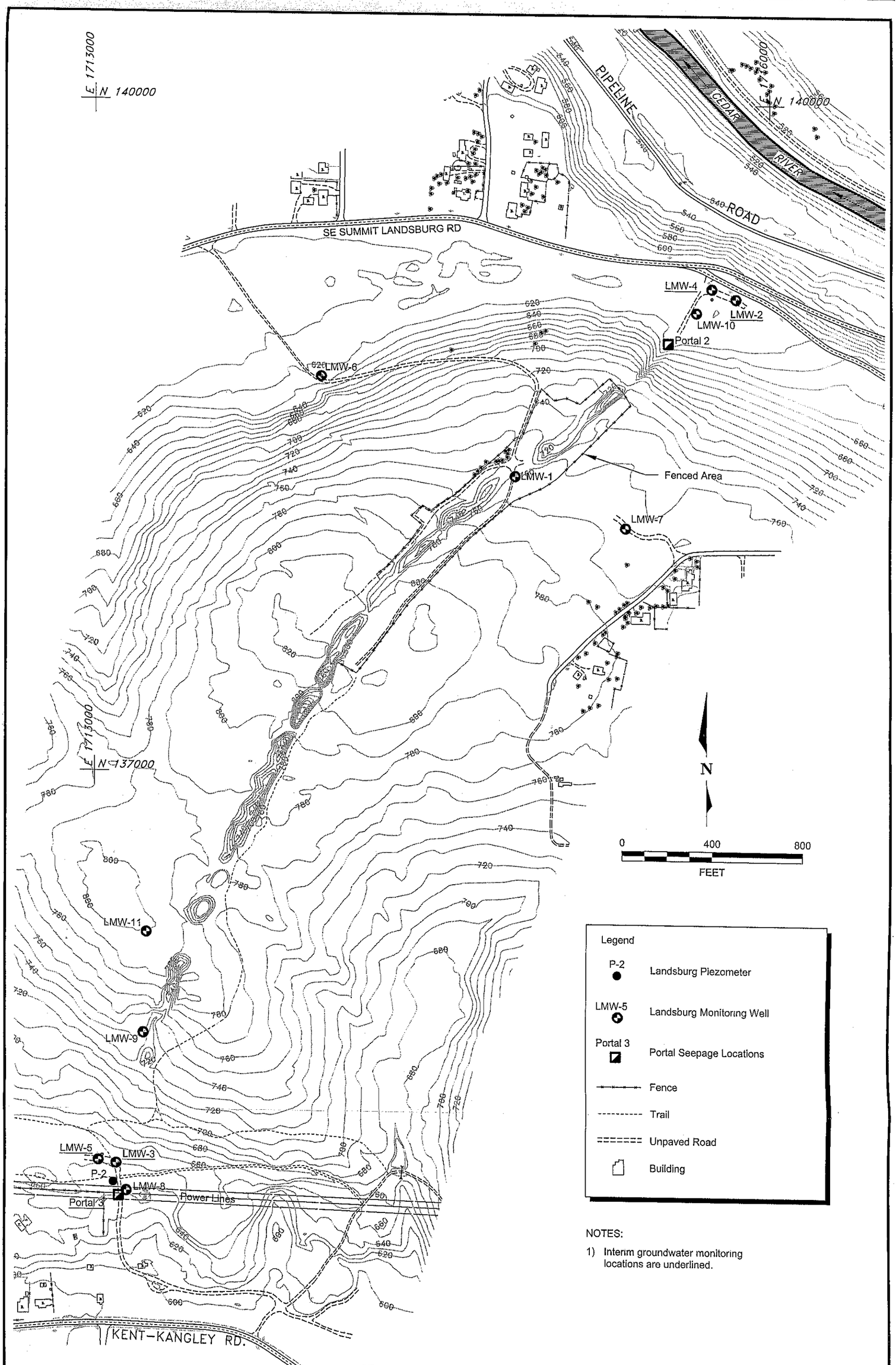

FIGURE 1

GROUNDWATER MONITORING LOCATIONS

PALMER/LANDSBURG MINE/WA

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Golder Associates

TABLES

TABLE 1

GROUNDWATER ELEVATION DATA COLLECTED 2/13/2006
LANDSBURG MINE SITE

	UNITS	LMW-1	LMW-1a	LMW-2	LMW-3	LMW-4*	LMW-5	LMW-6	LMW-7*	LMW-8	LMW-9	LMW-10	LMW-11	P-2	Water Drainage	Frazier Seam Tunnel
Water Depths																
Time of data collection	ft bgs	11:13 AM	NA	10:45 AM	12:38 AM	10:49 AM	12:25 AM	11:20 AM	10:35 AM	12:45 AM	11:45 AM	10:55 AM	12:05 AM	12:49 AM	NA	NA
Measured to Top of PVC	ft bgs	141.10	NC	6.03	11.45	7.48	12.99	22.71	211.37	3.12	98.81	0.24	156.68	6.07	NA	NA
Measured to Top of Monument	ft bgs	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NA	NA
Surveyed Elevation																
Top of PVC	ft asl	765.16	759.51	617.73	656.75	619.26	658.27	632.33	771.51	646.97	743.99	618.87	801.87	651.37	NA	NA
Top of Monument	ft asl	765.89	NC	618.29	657.48	619.85	658.87	633.00	771.88	NC	NC	NC	802.20	NC	NA	NA
Ground Level	ft asl	762.90	756.59	615.35	654.40	617.09	655.63	629.95	768.79	645.25	741.13	615.75	799.50	648.54	551.38	542.15
Corrected Water Elevation																
Using PVC elevation	ft asl	**624.06**	NA	**611.70**	**645.30**	**611.78**	**645.28**	**609.62**	**560.14**	**643.85**	**645.18**	**618.63**	**645.19**	**645.30**	NA	NA
Using Monument elevation	ft asl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
* = Data corrected to accomodate well inclination of 70° from horizontal
NA = Not applicable.
NC = Data not collected.

TABLE 2
FEBRUARY, 2006 GROUNDWATER ANALYTICAL RESULTS
LANDSBURG MINE SITE

Nitrogen	UNITS	Most Stringent MTCA GW Criteria	Most Stringent MTCA SW Criteria	LMW-2	P-2	LMW-4	LMW-5	LMW-6	LMW-7	LMW-8	LMW-9	LMW-10	LMW-11
				2/17/2006	2/16/2006	2/17/2006	2/17/2006	2/20/2006	2/20/2006	2/21/2006	2/20/2006	2/20/2006	2/16/2006
Field Parameters													
pH	stnd	>6 5 - < 8 5	>6.5 -< 9	6.84	6.92	7.07	7.05	7.21	7.20	7.09	7.20	8.76	7.10
Conductivity	uS/cm			612	501	669	568	169.4	487	258	543	284	387
Dissolved Oxygen	mg/L			0.20	0.29	0.20	0.10	0.44	0.55	1.17	0.64	0.91	0.28
Temperature	°C			10.5	11.1	10.6	10.7	9.5	11.6	8.9	11.3	9.6	11.4
Redox Potential	millivolts			-33.7	65.0	-104.2	-51.7	20.0	-223.5	0.5	0.98	0.92	134.2
Turbidity	NTU			0.73	1.48	0.47	0.44	1.31	0.62	1.92	-277.9	-266.3	1.45
Metals													
Antimony	mg/l	0.006	0.0056	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0 003 U	0.003 U
Aluminum	mg/l	0.2	0.087	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Arsenic	mg/l	0.005	0.005	0.001 U	**0.00128**	0.001 U	0.001 U	0.001 U	**0.00196**	**0.00127**	0.001 U	0.001 U	**0.01**
Barium	mg/l	2		**0.352**	**0.286**	**0.356**	**0.29**	**0.109**	**0.493**	**0.0386**	**0.326**	**0.0349**	**0.293**
Beryllium	mg/l	0.004	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	mg/l	0.005	0 0005	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chromium	mg/l	0.048	0.048 (0.01 Cr+6)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.0016**
Cobalt	mg/l			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.00153**
Copper	mg/l	0.64	0.023	0.001 U	**0.00107**	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.00127**
Iron	mg/l	0.3	1	0.15 U	**1.23**	**0.563**	**0.421**	**2.07**	**0.987**	**5.75**	**1.59**	0.15 U	**2.38**
Lead	mg/l	0.005	0.008	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0 001 U
Manganese	mg/l	0.05		**0.229**	**0.232**	**0.187**	**0.28**	**0.0344**	**0.149**	**0.376**	**0.182**	0.01 U	**0.195**
Mercury	mg/l	0.002	0.000012	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	mg/l	0.1	0.132	**0.00253**	**0.00283**	**0.00192**	**0.00163**	0.001 U	**0.00147**	**0.00143**	**0.00158**	0.001 U	**0.0051**
Selenium	mg/l	0.05	0.005	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Silver	mg/l	0.1	0.021 (acute only)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.0054**	0.001 U	0.001 U
Thallium	mg/l	0.00112	0.0017	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vanadium	mg/l			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.00103**	0.001 U	0.001 U	**0.00109**
Zinc	mg/l	4.8	0.265	0.01 U	0.01 U	**0.0125**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

TABLE 2
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Nitrogen	UNITS	Most Stringent MTCA GW Criteria	Most Stringent MTCA SW Criteria	LMW-2	P-2	LMW-4	LMW-5	LMW-6	LMW-7	LMW-8	LMW-9	LMW-10	LMW-11
				2/17/2006	2/16/2006	2/17/2006	2/17/2006	2/20/2006	2/20/2006	2/21/2006	2/20/2006	2/20/2006	2/16/2006
Major Cations and Anions													
Calcium	mg/L			119	84.3	118	97.2	24.5	54	34.6	80.5	6.3	61
Magnesium	mg/L			72.3	47.4	71	55.1	12.7	26.2	18.7	45.9	2.71	30.7
Sodium	mg/L			22.8	16.1	26.6	17.8	6.86	48.3	8.72	17.7	72.3	24.5
Potassium	mg/L			3.64	2.75	3.38	2.97	2.0 U	3.14	2.24	4.71	2.0 U	2.0 U
Total Alkalinity	mg/L (as $CaCO_3$)			637	456	628	511	121	368	191	428	199	355
Sulfate	mg/L	250		15.4	25.2	15.7	35.8	15.8	5.26	1.43	6.83	4.13	13.3
Chloride	mg/L	250	230	5.68	1.62	5.31	1.53	1.12	1.88	1.83	4.57	2.18	3.67
Fluoride	mg/L	4		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.81	0.5U
Nitrate/Nitrite Nitrogen	mg/L (as N)	10		0.2 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0125	0.01 U
Silica	mg/L			20.2	20.8	19.8	20.8	22	23.2	16.2	21.2	10.8	19.8
Total Cyanide	mg/L			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Weak Dissociable Cyanide	mg/L	0.2	5.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Geochemical Attenuation Pararmenters													
Ferric Iron	mg/l				0.26						0.52		2.25
Ferrous Iron	mg/l				0.97						1.07		0.25 U
Nitrate Nitrogen	mg/L (as N)				0.01 U						0.021		0.01 U
Nitrite Nitrogen	mg/L (as N)				0.01 U						0.01 U		0.01 U
Ammonia Nitrogen	mg/L (as N)				0.926						0.539		0.755
Kjedahl Nitrogen	mg/L (as N)				1.0 U						1.0 U		1.0 U
Sulfide	mg/l				7.6 J						8.4 J		5.6 J
Dissolved Methane	mg/l				1.83						0.845		1.17
Dissolved Ethene	mg/l				0.01 U						0.01 U		0.01 U
Dissolved Ethane	mg/l				0.01 U						0.01 U		0.01 U
Dissolved Hydrogen	n-Molar				16						80		61